

IN THE CLAIMS

Please amend the claims as indicated in the following List of Claims. This list replaces all prior versions and listings of claims in the application.

1. (Canceled)

2. (Currently Amended) ~~An apparatus as in claim 1~~ An apparatus for regulating a driver driving a gas compressor having a gas inlet and a gas outlet, wherein the driver has a maximum power, which apparatus comprises:

a recycle pressure relief device in fluid communication with the gas outlet, the recycle pressure relief device adapted to receive a stream of a compressed gas having a discharge pressure from the gas outlet; and

a conduit in fluid communication with the gas inlet, whereby the gas inlet receives at least a portion of the stream of the compressed gas transmitted to the conduit from the recycle pressure relief device when the discharge pressure reaches a designated pressure, wherein the driver is a gas turbine and at least a portion of the compressed gas is a refrigerant.

3. (Currently Amended) An apparatus as in claim 2 4, wherein the driver is a single-shaft gas turbine and the compressor is a refrigerant compressor.

4. (Canceled)

5. (Currently Amended) An apparatus as in claim 2 4, further comprising a vessel in fluid communication with the conduit and the gas inlet.

6. (Currently Amended) An apparatus as in claim 2 4, further comprising at least one additional recycle pressure relief device in fluid communication with the gas outlet, the additional recycle pressure relief device adapted to receive an additional stream of the compressed gas from the gas outlet.

7. (Original) An apparatus as in claim 6, wherein the at least a portion of the stream of the compressed gas is transmitted to the conduit from the recycle pressure relief device when the driver reaches a first designated percentage of the maximum power, and at least a portion of the additional stream of the compressed gas is transmitted to the conduit from the additional recycle pressure relief device when the driver reaches a second designated percentage of the maximum power.

8. (Canceled)

9. (Currently Amended) ~~An apparatus as in claim 8,~~ An apparatus for regulating at least one driver driving at least one multi-stage gas compressor having a plurality of stages, a gas inlet for each stage, and a gas outlet for each stage, which apparatus comprises:

at least one recycle pressure relief device in fluid communication with each gas outlet, the recycle pressure relief device adapted to receive at least one stream of a compressed gas having a discharge pressure from the gas outlet; and

at least one conduit in fluid communication with at least one gas inlet, whereby the at least one gas inlet receives at least a portion of the at least one stream of the compressed gas transmitted to the at least one conduit from the recycle pressure relief device when the discharge pressure reaches a designated pressure;

wherein the driver is a single-shaft gas turbine and the compressor is a refrigerant compressor.

10. (Currently Amended) An apparatus as in claim 9 8, further comprising at least one vessel in fluid communication with the at least one conduit and at least one gas inlet.

11. (Currently Amended) A baseload LNG plant using an apparatus as in claim 2 4.

12. (Original) An apparatus for regulating a single-shaft gas turbine driving a refrigerant compressor having a gas inlet and a gas outlet, the gas inlet optionally being in fluid communication with at least one vessel, which apparatus comprises:

at least one recycle pressure relief valve in fluid communication with the gas outlet of the refrigerant compressor, each recycle pressure relief valve adapted to receive a separate stream of a compressed gas having a discharge pressure from the gas outlet of the refrigerant compressor; and

at least one conduit in fluid communication with the gas inlet and optionally with the at least one vessel, whereby the gas inlet and optionally each vessel receives at least a portion of the stream of the compressed gas transmitted to the at least one conduit from the recycle pressure relief valve when the discharge pressure reaches a designated pressure.

13. (Canceled)

14. (Currently Amended) ~~A method as in claim 13~~ A method for regulating a driver driving a gas compressor having a gas inlet and a gas outlet, the driver having a maximum power, which method comprises:

providing a recycle pressure relief device in fluid communication with the gas outlet, the recycle pressure relief device adapted to receive a stream of a compressed gas having a discharge pressure from the gas outlet;

establishing a designated pressure for the discharge pressure;

providing a conduit in fluid communication with the gas inlet; and

transmitting at least a portion of the stream of the compressed gas to the conduit from the recycle pressure relief device when the discharge pressure reaches the designated pressure;

wherein the driver is a gas turbine and at least a portion of the compressed gas is a refrigerant.

15. (Currently Amended) A method as in claim 14 ~~13~~, wherein the driver is a single-shaft gas turbine and the compressor is a refrigerant compressor.

16. (Canceled)

17. (Currently Amended) A method as in claim 14 ~~13~~ further comprising:

providing a vessel in fluid communication with the conduit and the gas inlet; and

transmitting at least a portion of the stream of the compressed gas from the conduit to the vessel.

18. (Currently Amended) A method for regulating a driver driving a gas compressor having a gas inlet and a gas outlet, the driver having a maximum power, which method comprises:

providing a recycle pressure relief device in fluid communication with the gas outlet, the recycle pressure relief device adapted to receive a stream of a compressed gas having a discharge pressure from the gas outlet;

establishing a designated pressure for the discharge pressure;

providing a conduit in fluid communication with the gas inlet;

transmitting at least a portion of the stream of the compressed gas to the conduit from the recycle pressure relief device when the discharge pressure reaches the designated pressure; A method as in claim ~~13~~ further comprising:

providing at least one additional recycle pressure relief device in fluid communication with the gas outlet, the additional recycle pressure relief device adapted to receive an additional stream of the compressed gas from the gas outlet; and

transmitting at least a portion of the additional stream of the compressed gas to the conduit when the discharge pressure reaches the designated pressure.

19. (Original) A method as in claim 18, wherein the at least a portion of the stream of the compressed gas is transmitted to the conduit from the recycle pressure relief device when the driver reaches a first designated percentage of the maximum power, and at least a portion of the additional stream of the compressed gas is transmitted to the conduit from the additional recycle pressure relief device when the driver reaches a second designated percentage of the maximum power.

20. (Canceled)

21. (Currently Amended) ~~A method as in claim 20,~~ A method for regulating at least one driver driving at least one multi-stage gas compressor having a plurality of stages, a gas inlet for each stage, and a gas outlet for each stage, which method comprises:

providing at least one recycle pressure relief device in fluid communication with each gas outlet, the recycle pressure relief device adapted to receive at least one stream of a compressed gas having a discharge pressure from the gas outlet;

establishing a designated pressure for the discharge pressure;

providing at least one conduit in fluid communication with at least one gas inlet; and

transmitting at least a portion of the at least one stream of the compressed gas to the at least one conduit from the recycle pressure relief device when the discharge pressure reaches the designated pressure, whereby the at least one gas inlet receives at least part of the at least a portion of the at least one stream of the compressed gas;

wherein the driver is a single-shaft gas turbine and the compressor is a refrigerant compressor.

22. (Currently Amended) A method as in claim 21 ~~20~~ further comprising:

providing a vessel in fluid communication with the at least one conduit and the gas inlet; and
transmitting at least a portion of the at least a portion of the stream of the compressed gas from the at least one conduit to the vessel.

23. (Currently Amended) A process for producing liquefied natural gas from a baseload LNG plant using a method as in claim 14 ~~13~~.

24. (Original) A method for regulating a single-shaft gas turbine driving a refrigerant compressor having a gas inlet and a gas outlet, the gas inlet optionally being in fluid communication with at least one vessel, which method comprises:

providing at least one recycle pressure relief valve in fluid communication with the gas outlet of the refrigerant compressor, each recycle pressure relief valve adapted to receive a separate stream of a compressed gas having a discharge pressure from the gas outlet of the refrigerant compressor;

establishing a designated pressure for the discharge pressure;
providing at least one conduit in fluid communication with the gas inlet and optionally with the at least one vessel; and

transmitting at least a portion of the stream of the compressed gas to the conduit from the recycle pressure relief valve when the discharge pressure reaches the designated pressure, whereby the gas inlet and optionally each vessel receives at least a portion of the stream of the compressed gas transmitted to the at least one conduit from the recycle pressure relief valve when the discharge pressure reaches the designated pressure.

25. (New) A gas compression system comprising

(a) a driver;

(b) a refrigerant compressor driven by the driver and having an inlet and an outlet;

(c) a relief pressure safety valve having an inlet in flow communication with the outlet of the compressor of (b), an outlet, and a set point; and

(d) a recycle pressure safety valve having an inlet in flow communication with the outlet of the compressor of (b), an outlet in flow communication with the inlet of the compressor of (b), and a set point that is lower than the set point of the relief pressure safety valve of (c).

26. (New) The gas compression system of claim 25 further comprising

(e) an additional compressor driven by the driver and having an inlet and an outlet, wherein the inlet is adapted to receive gas from the outlet of the compressor of (b);

(f) a relief pressure safety valve having an inlet in flow communication with the outlet of the additional compressor of (e), an outlet, and a set point; and

(g) a recycle pressure safety valve having an inlet in flow communication with the outlet of the compressor of (e), an outlet in flow communication with the inlet of the compressor of (e), and a set point that is lower than the set point of the relief pressure safety valve of (f).

27. (New) The gas compression system of claim 25 further comprising an additional recycle pressure safety valve having an inlet in flow communication with the outlet of the compressor of (b), an outlet in flow communication with the inlet of the compressor of (b), and a set point that is lower than the set point of the relief pressure safety valve of (c), wherein the driver is a gas turbine having a maximum power, wherein the recycle pressure safety valve of (d) is adapted to open when the gas turbine reaches a first percentage of its maximum power, and wherein the additional recycle pressure safety valve is adapted to open when the gas turbine reaches a second percentage of its maximum power that is greater than the first percentage of its maximum power.

28. (New) A method of operating a refrigerant compressor driven by a single-shaft gas turbine comprising

(a) providing a compression system including

(1) a refrigerant compressor and a single-shaft gas turbine adapted to drive the refrigerant compressor, wherein the refrigerant compressor has an inlet and a discharge line leading to a compressor outlet;

(2) a relief pressure safety valve having an inlet in flow communication with the discharge line of the refrigerant compressor an outlet, and a set point; and

(3) a recycle pressure safety valve having an inlet in flow communication with the discharge line of the refrigerant compressor, an outlet in flow communication with the inlet of the refrigerant compressor, and a set point that is lower than the set point of the relief pressure safety valve;

(b) blocking the compressor outlet;

(c) causing the recycle pressure safety valve to open and allowing compressed gas to flow to the inlet of the refrigerant compressor, thereby increasing the throughput of the refrigerant compressor, consuming all available power of the gas turbine, and causing the gas turbine to slow down; and

(d) causing the gas turbine to trip on low speed.